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DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING NEWSLETTER, Vol. 7 No. 1, MARCH 2011

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DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING

ISSUE 7 Vol. 1

NEWSLETTER OF ACHIEVEMENT

MARCH 2011

Student Executive Director of World Energy Project

A year-long internship, between the end of high school and the beginning of college in 2008, changed the course of **Ashley Schmidt's** life. Working in Mali, Africa, through her church in Omaha, Christ Community Church, she discovered that renewable energy could solve problems compounded by expensive infrastructure for health care in developing countries.

While working at the Women and Children's Hospital in Koutiala, she noticed that cell phones were prevalent, yet no land lines existed, and deduced that sidestepping the fossil fuel path to developing power could be applied to localized renewable energy needs as well. A reliable and consistent source of electricity, for example, would greatly improve the services the Koutiala hospital offers the surrounding population. The hospital is managed by CPAM (Centre Protestante pour l'Assistance Medical), Christian alliances, and other NGO organizations, with the goal of autonomy for the Malian doctors and staff.

Prior to the internship, Ashley thought her love of math and science would lead her to a career in medicine. After the internship, she discovered that biological systems engineering could provide a flexible career path to helping people too. She began networking with people she knew, one of whom is the CEO of Global Partners in Hope (GPiH; internship in 2007, 2008), in Omaha. GPiH also has a presence in Mali. She talked to Grant Stanley, a friend in Omaha and the founder of Contemporary Analysis; the conclusion they reached was, "Let's do this." The World Energy Project, a non-profit organization, was born.



Ashley Schmidt, Executive Director, The World Energy Project

Forming their own non-profit gives them the logistics and flexibility to complete their own projects. She and her team are working with two key people she met in Mali: Dutch engineer, Anco Vanbergeijk, and Daniel Thera, a lawyer, philanthropist, and the founder of the hospital in Koutiala.

Ashley recently spent a week in February in the Bako region (southwest) of Mali. She joined a group of American non-profits, Malian non-profits, Malian government officials, and community leaders as they dedicated the opening of a medical clinic. They also worked on proposals for future collaborations in medicine, safe water, and engineering for the people of the region. She visited the University of Mali in Bamako to continue laying the foundation for establishing educational exchanges between the Nebraska University system and the University of Mali.

Future plans include a month-long trip for six-team members in June 2011, to install solar systems at hospital satellite medical clinics, and to discuss water engineering and solar solutions for other areas in Mali. Ashley is planning to add to the intellectual and financial resources of the organization, to bring renewable, sustainable energy to more people. The World Energy Project has partnered with a number of organizations in the United States and in Mali to provide working solutions to the Bako region in a very practical sense and is excited to continue moving forward with the work in Mali. If you are interested in learning more about their work or supporting this organization, go to: www.worldenergyproject.org.



UNIVERSITY OF NEBRASKA-LINCOLN

BIOLOGICAL SYSTEMS ENGINEERING DEPARTMENT

From the Department Head



Ron Yoder

In an earlier issue of our newsletter we presented some of the department's focus on energy, and in another issue the international activities of our students and faculty. In our cover article in this issue we introduce you to Ashley Schmidt and the World Energy Project, a student conceived, developed, and led project that combines those two topics. In another international connection, graduate student Matt Wold became the first and only North American student to receive an International Helmut Claas scholarship, and traveled to Harsewinkel, Germany, to present his research. These are but two of many of our students who are engaged in making a difference. We are very proud of the abilities and commitment of our students, and these are fine examples of what they are achieving.

Two other international activities that I will highlight among many occurring in the department are a study abroad experience and a prestigious recognition of one of our faculty members. In May Dennis Schulte and Adam Liska will lead a group of students to Germany. The title of the course is Lessons in Environmental Sustainability from Germany: Agriculture, Energy, and Resource Management. Also, in August Curt Weller will begin a year long stint as a Jefferson Science Fellow. Jefferson Science Fellows work with either the U.S. Department of State or the U.S. Agency for International Development (USAID) to provide "up-to-date expertise in the rapidly advancing STE (science, technology, and engineering) arenas that routinely impact the policy decisions encountered by the U.S. Department of State/USAID."

As you peruse the news in this issue you will learn of the education, research, and extension activities of the department as we apply engineering to biological and agricultural systems to provide food, energy, water, and health care to society in better and more efficient ways. We hope you enjoy these articles and invite you to keep in touch with us.

Biological Systems Engineering Department Newsletter

Ron Yoder Editor
Gail Ogden Editorial Coordinator
Sheila Smith Graphics and Design
Contributors Stacey Joy, Derrel Martin, Matthew Wold, Jane Johnson,
John Brooke, Ashley Schmidt, Loren Isom

Any mention of trade names in this publication does not imply endorsement by the Biological Systems Engineering Department.

Biological Systems Engineering Department Newsletter

Archives

Past issues are on the web at bse.unl.edu/news.shtml



100 YEARS

Alumni Reunion

To celebrate the 100th anniversary of the department, an alumni reunion was held on Saturday, September 18. The Department celebrated 100 years of the department and agricultural engineering, 90 years of the Tractor Test Lab, 51 years of mechanized systems management, and 20 years of biological systems engineering. Attendees were treated to tours of Chase Hall, the Tractor Test Museum, and Splinter Labs. A tail-gate style lunch at the Nebraska Tractor Test Lab featured grilled and locally well-known P.O. Pears burgers, brats, and hot dogs, with Dairy Store ice cream for dessert. The group then settled in to watch the Huskers beat the Washington Huskies football team on a large screen.



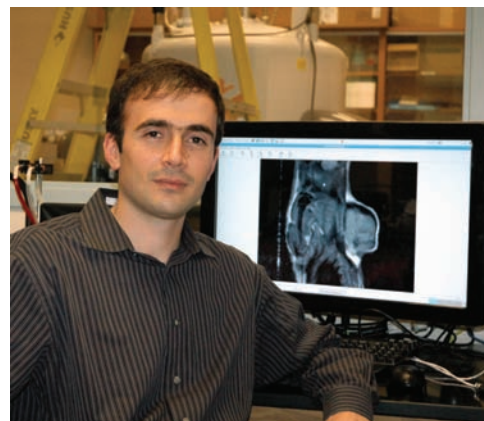


Visiting Scholar

Dr. Nachiket Kotwaliwale is a Senior Scientist at the Central Institute of Agricultural Engineering (CIAE). Located in Bhopal, India, The Institute is an agency within the National Agricultural Engineering Research Laboratory, which is part of the Indian Council of Agricultural Research (ICAR), in New Delhi. He worked with Dr. Jeyam Subbiah in image processing of agricultural produce characterizations on freeze injury to cucumbers. He used a variety of imaging technologies including Magnetic Resonance Imaging and Hyper-spectral Imaging. Dr. Kotwaliwale obtained both Bachelor and Master's degrees in Agricultural Engineering in India. He earned his Ph.D. (2003) in Biosystems Engineering from Oklahoma State University, Stillwater, OK. His professional interests include design of agro-processing machinery, non-destructive quality evaluation of food material, drying, computer aided design, instrumentation and safety in agro-processing machines. His research on dust pollution in the legume milling industry in Central India is well recognized. He has developed equipment and processes for drying oyster mushrooms, production of Indian snack foods, disinfestations of harvested legumes, primary processing of fruits and vegetables, etc. He is presently involved in research and development of machinery and technology related to primary processing of horticultural crops, medicinal plants, and food grains. He has authored 6 books/proceedings, 16 research papers and innumerable popular articles. He visited our department from Aug. 12 to Nov. 11, 2010.

Meet the Faculty

Shadi Othman joined the faculty in August 2008, and specializes in Magnetic Resonance Imaging (MRI). He heads TREM, the Translational and Regenerative Medicine Imaging Laboratory, where he is assisted in his research by 3 graduate students and 8 undergraduates. He teaches freshman engineering BSEN/AGEN 112, team teaches introduction to biomedical engineering (BSEN 317) for juniors, and introduction to MRI (BSEN 496/896) for seniors and graduate students.



Shadi Othman

He received his undergraduate B.E. degree from Jordan University of Science and Technology, majoring in Mechanical Engineering. He then studied at the Illinois Institute of Technology and received an M.S. in Mechanical and Aerospace Engineering. His research centered on passive mechanical actuators for controlling cavity resonance in airplanes at supersonic speed. Shadi then decided to pursue an interdisciplinary education in bioengineering, and specialized in high field magnetic resonance imaging. He obtained a Ph.D. from the University of Illinois, Chicago, in Bioengineering, and completed his post-doctoral training at the University of Chicago, where he researched rodent cardiac imaging.

Shadi had the idea that the mechanical actuators he was working with for aerospace engineering could be combined and applied to high field MRI in a technique termed Microscopic Magnetic Resonance Elastography (MRE), which measures the mechanical properties of biological tissues at the microscopic level. Using microscopic MRE, it is possible to monitor the development of engineered tissues, noninvasive cancer biopsies, and how body tissue heals and grows.

At the University of Chicago, he worked with a 9.4-Tesla, 30-cm bore magnet. The magnet in the TREM lab is a 9.4-Tesla, 8.9-cm bore magnet used primarily for mice and specimen imaging. His primary off-campus collaborator is Matt Kelso, an Assistant Professor in the Department of Pharmacy Practice at the University of Nebraska Medical Center. They are monitoring traumatic brain injury (TBI) in mice, using MRE, to determine changes in brain elasticity following TBI in live mice.

Courtesy photo



Pictured left to right: Bill Kranz, Ken Bearnes (current chair of the Northeast Nebraska Experimental Farm Association), Congressman Jeff Fortenberry, and Alan Moeller, Assistant Vice Chancellor, IANR.

Ground breaking for the Sustainable Energy Options for Rural Nebraska project took place at the Haskell Agricultural Lab near Concord. Congressman Fortenberry, who was instrumental in securing funding for the project, attended. **Bill Kranz**, (Associate Professor, Northeast Research and Extension Center) the event organizer, said, "Nebraska has abundant wind, solar energy, and crops for fuel feed-stock; thus energy independence should be a major goal for rural Nebraska."

Adam Liska and co-author Richard Perrin were quoted in the New York Times in the Green Blog: Energy and Environment, July 19, 2010, from their article *Middle East Oil and the U.S. Military: Securing Foreign Oil: The Case for Including Military Operations in the Climate Change Impact of Fuels*. A second article, *The Other Gulf Oil Crisis*, was published by the McClatchy-Tribune News Service.

Loren Isom (IAPC, Technical Assistance Coordinator), Terry Bartels (IAPC, Research Technician), and Virginia Miller (Department of Agronomy and Horticulture) joined Hybrid Hazelnut Research Consortium members from the UNL Nebraska Forest Service, Rutgers University, Oregon State University, and the Arbor Day Foundation for a hazelnut industry tour in Corvallis, Oregon, in early September. They visited OSU's hazelnut research orchards and facilities, three commercial hazelnut orchards, two nurseries specializing in hazelnut propagation, and a hazelnut processing facility that supplies confectionary grade hazelnuts. In addition to the industry visits, consortium members conducted extensive progress review and planning sessions for the Consortium's 3-year grant with the USDA Specialty Crops Block Grant program. For further details on the grant, please see the IANR news release: ianrnews.unl.edu/static/1007210.shtml.

Curt Weller traveled to Savannah, GA, in October to receive the Excellence in Teaching Award presented by the American Association of Cereal Chemists at their annual meeting. He also traveled to Zambia in early December for Intersormil's workshop on *Sorghum Food Enterprise and Technology Development in Southern Africa*. In addition to the UNL members and one person from Texas A&M, the attendees were from South Africa, Botswana, Zimbabwe, Zambia, Nigeria, Tanzania, and Ethiopia. The focus of the workshop was sorghum for food and malting.

John Gilley received the Nebraska ASABE section award for Outstanding Contributions to Nebraska Agriculture.

In September, **Dennis Schulte** attended NOSE, the *International Conference on Environmental Odour Monitoring and Control*, hosted by the Italian Association of Chemical Engineering, in Florence, Italy. More than 100 worldwide participants discussed new developments in odor technology and regulations. Attention was directed to assessment, measurement, and impact evaluation for agriculture, specific sectors of industry, and civic responsibilities in relation to population density.

Roger Hoy is one of 21 lecturers participating in the 16th year of the UNL Speakers Bureau. This free service connects the citizens of Nebraska with UNL through service organizations, schools, and other groups. Learn more on the Web site: www.speakersbureau.unl.edu



Graeme Quick, a noted Australian Agricultural Engineer, became an honorary Husker when he visited the department. Roger Hoy, Director of the Nebraska Tractor Test Lab, (pictured at right), presented a cap to Graeme after he presented a seminar for our students.

Lester F. Larsen Tractor Test and Power Museum



As of January 1, 2011, **Jeremy Steele** (left) is the new Manager of Exhibits and Collections for the Lester F. Larsen Tractor Test and Power Museum. Long-time director, **Bill Splinter** (right), who played a vital role in establishing and developing the museum, has retired. Jeremy served as the museum development associate and the educational communications associate prior to his new position.

National Irrigation Symposium

The 5th Decennial National Irrigation Symposium was held in Phoenix, AZ, this fall. Sponsored by both ASABE and the Irrigation Association (IA) it was held in conjunction with a trade show featuring agricultural and residential irrigation equipment. This event is held every 10 years, and technical meetings by both ASABE and IA are offered. This is a chance for government employees, extension educators, faculty, and industry professionals to look back at accomplishments and look forward to future plans. Attending from our department were: Ron Yoder, Suat Irmak, Derrel Martin*, Dean Eisenhauer*, Bill Kranz*, C. Dean Yonts*, Simon van Donk*, and graduate student Jessica Deck*. Adjunct faculty member, Terry Howell*, with the USDA-ARS in Texas, also attended.

(* presenter)



Crystal Powers on a glacier in Canada

Greenhouse Gases in Animal Agriculture

Crystal Powers attended the *International Greenhouse Gases in Animal Agriculture* meeting in Banff, Alberta, Canada this fall. With a main focus on ruminant animals, researchers, policy makers, educators, and industry representatives from 38 countries (over 400 attendees) gathered to discuss what the best practices are in each of their countries. Finding balances in animal housing, feeding, breeding, and how to meet growing demand for animal products without increasing emissions within the social, cultural, and economic concerns in each region of the world is a complex issue where one solution will not answer every problem. Lots of break out sessions allowed Crystal to meet with many of the participants and gather new ideas for her Extension work in Nebraska.

Loren Isom assisted with the 2010 - Biomass, Research and Development Initiative proposal review process for USDA and DOE in Washington, D.C., Feb. 4 - 8. He joined 28 others to review, discuss, and rank proposals; 4 to 7 projects will be selected to receive a total of \$26 million. As a developing grant writer, Loren found that it was a very eye-opening and humbling experience. As a fellow reviewer explained, they were not really selecting the 7 best projects, but finding reasons to throw 60 others out.

Ron Yoder and **Dean Eisenhauer** were part of a team that visited the UNESCO Institute of Hydraulic and Environmental Engineering (IHE), Institute for Water Education, in Delft, The Netherlands, on February 3 - 4. The seven-member NU delegation was led by Vice Chancellors Prem Paul and Ronnie Green. The meeting was designed to help both institutions assess common goals and gauge the level of mutual benefit from joint research, fac-

ulty collaboration, student exchanges, and to develop priority action items to pursue. The IHE Rector has accepted an invitation to participate in NU's Water for Food Conference in May. During his visit to Lincoln, he will sign a Memorandum of Understanding with President Milliken, which will establish a collaborative relationship between the NU/Daughtery Water for Food Institute and the UNESCO IHE.

The Nebraska On-site Waste Water Association (NOWWA) presented its annual special recognition award to **Jan Hygnstrom**, Extension Project Manager with BSE, at the February 2011 annual convention held in Lincoln. The award reads, "In gratitude for the outstanding support of the onsite waste water industry and the Association in its formative years." Jan Hygnstrom, **Sharon Skipton**, and **Wayne Woldt** helped lay the groundwork for the formation of NOWWA, Nebraska's professional organization for those in the waste water industry, working to protect human health and the environment, in 2001.




Jan Hygnstrom

2011 Spring Banquet Friday, April 15, 2011

The 2011 Spring Banquet featuring a recognition dinner with awards presentations will be held Friday, April 15, 2011, at the Nebraska East Union, Arbor Suite, 3rd Floor. Student Design Exhibits will be on display from 5:30 PM. The dinner will be at 6:30 PM, and the program begins at 7:30 PM. The 2011 BSE Hall of Fame inductees will be announced. This annual event is for alumni, parents, students, faculty, and staff. Make reservations using the form below or the contact information provided.

Complete form to make your reservation. Make checks payable to University of Nebraska-Lincoln

Name(s)			 <p>Plan now to attend Return reservation by April 8 to: BSE Spring Banquet Attn: Eileen Curtis Biological Systems Engineering Department 200 CHA University of Nebraska—Lincoln Lincoln, Nebraska 68583-0726 Phone: 402-472-3905 ecurtis1@unl.edu</p>
Address			
City	State	Zip	
Phone	E-mail		
No. attending _____	@ \$16/person = _____	Enclosed	
No. attending _____	@ \$12/student = _____	Enclosed	

In Memoriam



The department was deeply saddened to learn of the death of Dr. Tim Hindman and his family on February 20, 2011. They had recently moved from Lincoln to an acreage south of Ithaca, NE. He was an engineer for Duncan Aviation. Tim received a B.S. degree in Mechanical Engineering from the University of Nebraska (1985) and a Masters of Aerospace En-

gineering from Wichita State University (1990). Tim worked with the Boeing Aircraft Company in Wichita, KS, from 1986 until 1995, when he became a National Needs Research Fellow and student in our department. He received his Ph.D. in Engineering in 2001; Dr. George Meyer was his advisor. Tim was a co-author on several journal articles in the area of weed detection and precision agriculture. However, Tim's professional love was the engineering of aircraft systems and he had found a perfect fit at Duncan Aviation.



Courtesy photo

Irrigation pioneer Vance Arthur Anderson passed away at the age of 100, in Hastings, NE, in September. He was born in Cushing, and moved to Hastings with his family when he was 13. After he graduated from Hastings High School, he attended UNL for three years. Following in the family business, he was one of the owners, served on the board, and was Vice President of Western Land

Roller Company, a vertical turbine irrigation pump manufacturing company, that at the time, served mainly Nebraska and the high plains. (The WLR brand is now owned by the Flowserve Corporation based in Dallas, TX). The company still manufactures the Western Land Roller vertical turbine pump for irrigation, industrial, and municipal applications at their facility in Hastings.

Mr. Anderson received numerous recognitions for his professional and civic (Rotary and DeMolay) achievements and service. Some of the many highlights include: 11 years on the Hastings Public School Board; the Board of Directors of Midwest Irrigation Company of Henderson; 10 years on the UNL Agriculture College Advisory Board; Advisory Council for the College of Engineering, UNL, and the Wayne Madsen Award for community service with the Nebraska Well Drillers Association in 2002. Mr. Anderson published the book, *Development of Irrigation Well Drilling in Nebraska* in 1981, was inducted into the University Hall of Agricultural Achievement (1982), and the BSE department Hall of Fame (1995). In 2009, he received the Maurice Kremer Ground Water Achievement Award from the Ground Water Foundation.

Making a Difference

2010 Alumni and Friends Donors

A sincere thank you from the members and students of the Biological Systems Engineering Department to these alumni, friends, and organizations for their contributions. These generous donations support student scholarships and special opportunities, as well as equipment for classrooms and laboratories.

Ag Processing Inc.
Sarah M. Anderson
Mr. and Mrs. William A. Bachman
Carl J. Bern
Glen M. Carman
Charles J. Clanton
James and Alice DeShazer
Mr. and Mrs. Gary A. Frecks
Mr. and Mrs. Gregory G. Glunz
Carroll E. and Carol Goering
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Paul S. Hottovy
Eugene A. Jarecki
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John Deere Foundation
Mr. and Mrs. William L. Kranz
Mr. and Mrs. James R. Minarick

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Timothy J. Stevens
Carol J. Swarts, M.D.
Ronald D. Tejral
Leroy W. and Jean E. Thom
Kenneth and Ernestine Von Bargaen
Charlotte Walters
Mr. and Mrs. Trent E. Wiles
David M. Woebbecke
Lee Zentner

To arrange a gift, contact:
Ann Bruntz, (CASNR/MSYM)
402-458-1176
abruntz@nufoundation.org
OR
Karen Moellering (COE, AGEN/BSEN)
402-458-1179
kmoellering@nufoundation.org

Comings and Goings

Yixiang Xu, former Research Assistant Professor, accepted a position at Virginia State University as an Assistant Professor of Food Processing and Engineering in the Agricultural Research Station.

Service Awards

On September 9, more than 1,000 university employees were honored for their years of service, and included the following people from our department.

35 Years

Dean Eisenhower
Milford Hanna
Louis Leviticus

30 Years

David Morgan

20 Years

Michael Kocher

5 Years

Diann Young



Look for us on Facebook:
Department of
Biological Systems Engineering
Become a friend!

Alum news

2000s

Pengfei Song (2010, M.S., ABSE) is pursuing his Ph.D. at the Mayo Clinic in Rochester, MN.

Tanner Augustin (2006, B.S., BSEN) is working for Medtronic in California. He is an IBHRE Certified Cardiac Device Specialist.

Ivan Leaders (2004, B.S., AGEN) recently moved from Peoria, IL, to Houston, TX. He is a Product Service Engineer for Caterpillar Inc., and serves as the worldwide product support engineer for Caterpillar's complete line of petroleum powershift transmissions.

Adam Shaver (2004, B.S., BSEN) received his M.S. in cybernetics at the University of Reading in the United Kingdom in 2005. He is a Research Scientist with Numerica Corporation in Loveland, CO.

What's New?

Update your profile at:
bse.unl.edu

Select Alumni Update under
Department heading.
Inclusion in the newsletter is
optional.

Pratik Bhandari, a graduate student advised by Milford Hanna, received a John and Louise Skala Fellowship at the annual Distinguished Fellowship Award Luncheon in October.

Stacey Joy (BSEN from Vermillion, SD) had an interesting summer as an intern with the Indian Health Service (IHS) on the Pine Ridge Indian Reservation in South Dakota, home to the Sioux nation. She learned how to survey and now knows how the surveying data is later utilized. She imported the data into AutoCAD, built surfaces, plotted known obstacles (buildings, fences, roads, etc.), figured out placement of wells and drain fields while following regulations, and found quantities needed to implement the construction designs. She learned all about wells, from start to finish, and the regulations and testing that accompany each drilling. Towards the end of the summer Stacey observed construction to see firsthand how the designs were being built. The poverty on the reservation was a shock for her. She learned that the majority of the people don't have running water or electricity; services that most of us take for granted simply don't exist. One thing she realized is that she wants to use her engineering education to be an agent of change and help people, whether here or abroad.

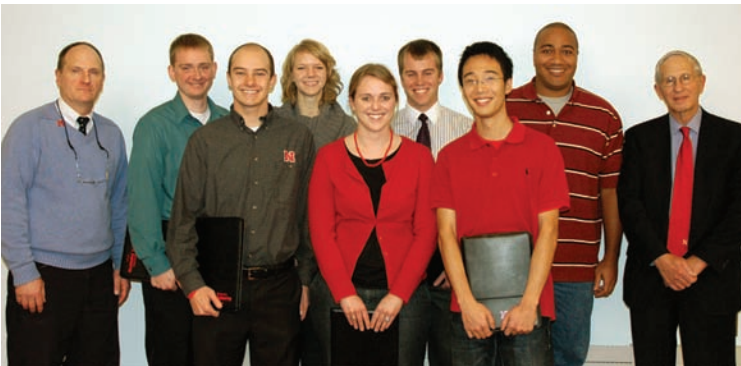


Stacey Joy

Student News



The Quarter-scale team finished 6th overall this year, and won the written design report and the maneuverability competitions.



BSEN graduates attended the College of Engineering Recognition reception at the Jackie Gaughan Multicultural Center on December 17. **Back row, left to right:** Dr. Curt Weller, Daniel Menter, Allison Potter, Scott Barker, Aaron West, Dr. James O'Hanlon, Interim Dean, College of Engineering. **Front row, left to right:** Brad Balogh, Bethany Lowndes, Simeng Zhang.



MSYM graduates attended the CASNR Graduate Recognition at the East Campus Union on December 17. **Back row, left to right:** Zach Carlson, A.J. Feldhausen, Justin Pecka, Dan Leiser. **Front row, left to right:** Dr. Jack Schin-stock, Garrett Gustafson, C. J. Synak, Evan Carlson, Sam Schmidt.

Quentin Dudley, a senior biological systems engineering student from Worthington, MN, was the recipient of the Honor Society of Agriculture, Gamma Sigma Delta International Foundation Scholarship. He was initiated in January, 2010. An active participant in department and campus activities, Quentin has served as a new student enrollment orientation leader, performed in the Cornhusker Marching Band, served in the Nebraska Human Resources Institute, and this fall was a member of the Homecoming court.

Matthew Wold, an agricultural engineering graduate student from Thief River Falls, MN, is the first and only North American student to receive one of four International Helmut Claas scholarships. Presented by The CLAAS Foundation, this scholarship is awarded on merit. The mission of The Foundation is "... to make a contribution to education and knowledge in agriculture, intended to show the grand possibilities and perspectives of modern agricultural engineering." He was flown to Harsewinkel, Germany, Claas world headquarters, at the end of October to present his research on an electronically-controlled Continuously Variable Transmission he designed as an undergraduate student at North Dakota State University. Matt received third place for his work and a scholarship of 3,000 Euros from The CLAAS Foundation.



Matthew Wold received the scholarship from Mr. Helmut Claas, son of the founder of CLAAS, an international manufacturer of agricultural machinery.

E-Day Victory

E-Day was held on December 7, in the Great Plains room of the East Union. It was the 5th year of the Incredible, Edible Car competition, the 7th time that E-Day has been held, and the 19th year of a winter poster exhibition to showcase the research and design projects of our students. Also in attendance were company representatives, many of whom are alumni. This year, the team INedible rolled their creation, Mint-Mobile, to sweet victory.



From left to right: Harris Ramm, John Bader, and Tim Jensen.

THE DEAN'S LIST

Fall Semester 2010

Agricultural Engineering

Adam Emanuel
Mark Hilderbrand*
Marcus Kuhl*
Andrew Landgraf
David Lindquist
Jonathan McCoy
Corey Smith
Joseph Timmons*
Josh Tomjack

Brendan Feehan
Michaela Fischer
Anthony Fleck
Mikayla Freese*
Ryan Freiburger
Erica Geis
Chris Hanson
Haley Hatter
Suzanne Higgins*
Charles Hinds
Andrew Hollins*

Ian Parsley
Nicholas Phillips
Alexander Pieper
Matthew Pirog
Allison Potter
Quinton Reckmeyer
Daniel Reiff
Justin Rosenbohm
Daran Rudnick
Cady Sargus
Kara Scheel

Biological Systems Engineering

Catheryn Amenta
John Bader
Thomas Bainter
Bobbi Balogh
Scott Barker
Stephanie Berger
Tyler Borcyk*
Brenden Boyle
Anne Bradford
Jacob Campbell
Erica Carder
Emily Cook
Kristen Cope
Beth Cowles*
James Dalton
Jordan Dau
Matthew Deveney
Tim Dornbos
Elizabeth Dudley
Quentin Dudley*
Austin Dudzinski
Alexander Eggert
Eric Farris

Elizabeth Hungerford
Stacey Joy
Kathleen Kendall*
Tim Kinoshita*
Adam Koch
Ted Kocher
Monica Krause*
Olivia Lambdin
Rachel Lemke*
Luke Lingenfelter
Nataniel Mannebach*
Jonathan McCoy
Michael McKinney*
Jeremiah Meints
Daniel Menter
Allison Mettler
Jessica Mills*
Erik Moore
Cat Nguyen
Stephen Nogel*
Emily Olig
Jared Ost diek
Daniel Owen
Kathy Parr

Tyler Scherr
Laurel Schmitz
Nicole Schuster
Kristine Seier
Derek Shafer
Cole Sievers
Jacob Sison-Martinez
Danielle Smith*
Brad Staskiewicz
Jacquelyn Stiles
David Szalewski*
Liz Thrailkill*
Nhat Tran*
Megan Tunink*
Claire Urvasz*
Nicholas Vandenberg
Aaron West
Mitchell White*
Alison Willis

Mechanized Systems Management

Colton Knickman
Grant Melotz
Aaron Shropshire
Leo Steffel

** indicates 4.0 gpa*

GRADUATION

August 2010 Graduates

M.S. Agricultural and Biological Systems Engineering

Pengfei Song, Weihai, China
Thesis title: *Ultrasound Transient Shear Wave Elasticity Imaging for Tendon Tissue*

December 2010

B.S. AGEN

Branden Baade, *Artesian, SD*
Brady Folck, *Bloomfield*
Corey Smith, *Bertrand*
Curtis Thoene, *Crofton*
Andrew Volkmer, *Syracuse*

B.S. BSEN

Brad Balogh, *Monroe*
Scott Barker, *Omaha*
Nick Behm, *Hamilton, MT*
Anna Furby, *Papillion*
Brett Hanika, *Lincoln*
Bethany Lowndes, *Gretna*
Michael McKinney, *Scottsbluff*
Daniel Menter, *Lincoln*
Allison Potter, *Lincoln*
Michael Schaal, *Omaha*
Brad Staskiewicz, *Springfield*
University Honors Program
Aaron West, *Omaha*
Simeng Zhang, *Jinan, China*
With Distinction

B.S. MSYM

Evan Carlson, *Lincoln*
A.J. Feldhausen, *Papillion*
Garret Gustafson, *Wakefield*
Dan Leiser, *Grand Island*
Justin Pecka, *Raymond*
Sam Schmidt, *Oakland*
C.J. Synak, *Lincoln*

M.S. Agricultural and Biological Systems Engineering

Jihan Cepeda, Bogata, Colombia
Thesis title: *Modeling Heat Transfer During Cooling of Ready-to-Eat Meats*

Jessica Deck, Sioux City, IA
Thesis title: *Hydraulic Conductivity, Infiltration, and Runoff from Tilled and No-till Cropland*

Rajveer Dhillon, Malout, India
Thesis title: *Development of an Integrated Soil Physical Properties Mapping System*

Brent Hall, Mt. Liberty, OH
Thesis title: *Removal of Low Density Sediments by Vegetative Filters*

Chris Howard, Valentine
Thesis title: *Testing Fuel Efficiency of Tractor with Both Continuously Variable and Standard Geared Transmissions*

Grant Janousek, Leigh
Thesis title: *Evaluation of Ethanol and Water Introduction Via Fumigation on Efficiency and Emissions of a Compression Ignition Engine Using an Atomization Technique*

David Rus, Lincoln
Thesis title: *Improving Sampling Designs for Estimating Suspended-Sediment Load in the Lower Missouri River*

Dipika Singh, Lucknow, India
Thesis title: *Identification of Holocarboxylase Synthetase Chromatin Binding Sites in Human Mammary Cell Lines Using the DamID Technology*

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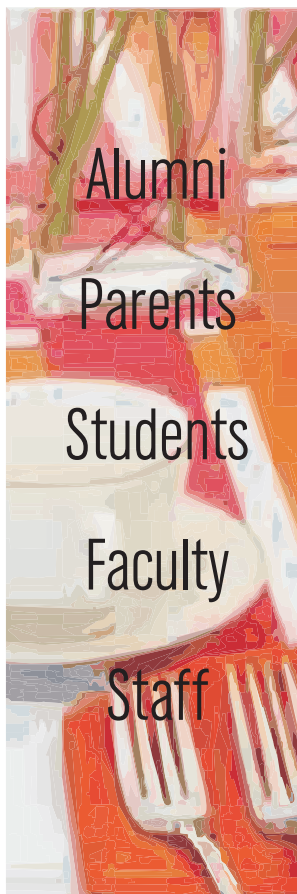
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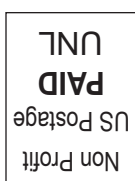
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